

Application No. 10/791,042

Response to Non-Final Office Action of June 25, 2007

Amendments to the Claims:

The Listing of Claims (pages 9–17) replaces all prior Listings of Claims in the application.

All prior claims 1–21 have been canceled without disclaimer.

New claims 22–35 have been added to the Listing of Claims to more clearly define the invention.

Claims 22–35 are now pending.

Listing of Claims:

Claims 1-21 (Canceled)

22. (New) A portable game system comprising:

- (a) a processor for generating polygon vertex data that represents shapes of a player-controlled 3-dimensional simulated object moving in a 3-dimensional simulated game space;
- (b) a processor for rendering said polygon vertex data as first pixel data that represents an image of said simulated object from a variable first viewpoint in said 3-dimensional game space;
- (c) a processor for rendering said polygon vertex data as second pixel data that represents an image of said simulated object from a variable second viewpoint that is displaced in said 3-dimensional game space from said first viewpoint;
- (d) a portable autostereoscopic discrete display device that displays said first and second pixel data as corresponding left and right interlaced images for stereoscopic viewing from at least one viewing zone;
- (e) a parallax barrier mounted on said discrete display device that inhibits said left and right interlaced images from being simultaneously displayed to one eye;
- (f) a touch sensitive transparent panel mounted on said discrete display device for detecting a variable sequence of locations touched on said panel by a manually operated physical object moving in contact with the surface of said panel, wherein said discrete display device displays said left and right interlaced images through said transparent panel into said viewing zone;

- (g) first writable data memory for storing at least a portion of a sequence of 2-dimensional coordinates of said touched locations, a corresponding sequence of 3-dimensional spatial coordinates of a portion of said player-controlled object, and a corresponding sequence of 2-dimensional coordinates of display locations on said discrete display device;
- (h) a manually operable control device that generates control data that causes said simulated object to move in a third dimension of said sequence of 3-dimensional spatial coordinates;
- (i) wherein at least one of said 2-dimensional coordinates of said display locations is different in at least one value compared to said corresponding 2-dimensional coordinates of touched locations;
- (j) a processor for converting said portion of a sequence of 2-dimensional coordinates of touched locations to said corresponding sequence of 3-dimensional spatial coordinates for storage in said first writable data memory;
- (k) a processor for generating simulated 3-dimensional motion of at least a portion of said player-controlled object moving through said first sequence of 3-dimensional spatial coordinates in said game space; and
- (l) said discrete display device stereoscopically displaying said left and right interlaced images of said player-controlled object moving through said sequence of display coordinates corresponding to said 3-dimensional spatial coordinates.

23. The game system of claim 22, wherein said control device is any from the group comprising: touchpad, touchscreen, joystick, direction switch, button switch, motion sensor, and a combination thereof.
24. The game system of claim 22, wherein said discrete display device is a liquid crystal display (LCD) device.
25. The game system of claim 22, wherein said processors are the same processor.
26. The game system of claim 22, wherein said processors comprise a first processor and a graphics coprocessor.
27. The game system of claim 22, wherein transparency of said parallax barrier is controlled by one of said processors for 2-dimensional and 3-dimensional display.
28. The game system of claim 22, further comprising a second discrete display device for displaying non-stereoscopic images.
29. The game system of claim 22, further comprising a second autostereoscopic discrete display device.
30. The game system of claim 22, wherein said simulated object is a grasping hand that grasps a second player-controlled object.

31. (New) A portable game system comprising:
- (a) a processor for generating polygon vertex data that represents shapes of a player-controlled 3-dimensional simulated object moving in a 3-dimensional simulated game space;
 - (b) a processor for rendering said polygon vertex data as first pixel data that represents an image of said simulated object from a variable first viewpoint in said 3-dimensional game space;
 - (c) a processor for rendering said polygon vertex data as second pixel data that represents an image of said simulated object from a variable second viewpoint that is displaced in said 3-dimensional game space from said first viewpoint;
 - (d) a portable autostereoscopic discrete display device that displays said first and second pixel data as corresponding left and right interlaced images for stereoscopic viewing from at least one viewing zone;
 - (e) a touch sensitive transparent panel mounted on said discrete display device for detecting a variable sequence of locations touched on said panel by a manually operated physical object moving in contact with the surface of said panel, wherein said discrete display device displays said left and right interlaced images through said transparent panel into said viewing zone;

- (f) first writable data memory for storing at least a portion of a sequence of 2-dimensional coordinates of said touched locations, a corresponding sequence of 3-dimensional spatial coordinates of a portion of said player-controlled object, and a corresponding sequence of 2-dimensional coordinates of display locations on said discrete display device;
- (g) wherein at least one of said 2-dimensional coordinates of said display locations is different in at least one value compared to said corresponding 2-dimensional coordinates of touched locations;
- (h) a processor for converting said portion of a sequence of 2-dimensional coordinates of touched locations to said corresponding sequence of 3-dimensional spatial coordinates for storage in said first writable data memory;
- (i) a processor for generating simulated 3-dimensional motion of at least a portion of said player-controlled object moving through said first sequence of 3-dimensional spatial coordinates in said game space; and
- (j) said discrete display device stereoscopically displaying said left and right interlaced images of said player-controlled object moving through said sequence of 3-dimensional spatial coordinates.

32. The game system of claim 31, further comprising a manually operable control device that generates control data that causes said simulated object to move in a third dimension of said sequence of 3-dimensional spatial coordinates, wherein said control device is any from the group comprising: touchpad, touchscreen, joystick, direction switch, motion sensor, and a combination thereof.

33. (New) A computer readable data storage medium for use with a game system, said data storage medium storing game program instructions comprising:
- (a) executable instructions that cause said game system to generate polygon vertex data that represents shapes of a player-controlled 3-dimensional simulated object moving in a 3-dimensional simulated game space;
 - (b) executable instructions that cause said game system to render said polygon vertex data as first pixel data that represents said simulated object from a variable first viewpoint in said 3-dimensional game space;
 - (c) executable instructions that cause said game system to render said polygon vertex data as second pixel data that represents said simulated object from a variable second viewpoint that is displaced in said 3-dimensional game space from said first viewpoint;
 - (d) executable instructions that cause said game system to display said first and second pixel data as corresponding left and right images on a portable autostereoscopic discrete display device for viewing from at least one viewing zone;
 - (e) executable instructions that cause said game system to process data that represents a variable sequence of locations touched on a touch sensitive transparent panel by a manually operated physical object moving in contact with the surface of said panel, wherein said transparent panel is mounted on said discrete display device which displays said left and right images through said transparent panel into said viewing zone;

- (f) executable instructions that cause a writable data memory to store at least a portion of a sequence of 2-dimensional coordinates of said touched locations, to store a corresponding sequence of 3-dimensional spatial coordinates of a portion of said player-controlled object, and to store a corresponding sequence of 2-dimensional coordinates of display locations, wherein at least one of said 2-dimensional coordinates of said display locations is different in at least one value compared to said corresponding 2-dimensional coordinates of touched locations;
- (h) executable instructions that cause said game system to convert said portion of a sequence of 2-dimensional coordinates of touched locations to said corresponding sequence of 3-dimensional spatial coordinates for storage in said writable data memory;
- (i) executable instructions that cause said game system to generate simulated 3-dimensional motion of at least a portion of said player-controlled object moving through said first sequence of 3-dimensional spatial coordinates in said game space; and
- (j) executable instructions that cause said game system to stereoscopically display on said discrete display device said left and right images of said player-controlled object moving through said sequence of 3-dimensional spatial coordinates.

34. (New) The data storage medium of claim 33, wherein said data storage medium is from the group comprising: an optically coded medium, a semiconductor memory, and a magnetic data storage medium.

35. (New) The data storage medium of claim 33, wherein said data storage medium is a writable data memory into which said game program instructions are downloaded from a separately housed system.